EXHIBIT – I
SCOPE OF WORK

1. DESCRIPTION OF WORK – GENERAL

Except as otherwise expressly provided elsewhere in this Contract, CONTRACTOR shall provide all labor, supervision, material, equipment and inspection, prepare record books, furnish all materials, transportation, freight forwarding, customs clearance, material receiving and handling, warehousing services, utilities, supplies, tools, construction equipment, temporary facilities and each and every item of expense necessary for the **Perform Miscellaneous work PKG 1 (Piping Cold works, Strainer Cleaning & Inspection, PRD and Control Valve- Removal and Installation)** at the COMPANY facility in Jubail Industrial City.

- To perform Maintenance activities on Miscellaneous work in Ethylene and MPH of SPCO North during forthcoming Turnaround 2022. (Area-1,2,3,4 & 9 Respectively)

SECTION – A

GENERAL TERMS &CONDITIONS

Terms & Conditions

The Scope of work described in this document shall be executed in accordance with the following
terms and conditions wherever it applicable to the subject job: In this section Contractor's &
COMPANY's responsibilities have been divided.

1.1 CONTRACTOR's responsibilities:

Terms & conditions with respect to contractor's responsibilities have been listed in below documents under different sub-heads.

CONTRACTOR's responsibilities include, but are not limited to the following:

General Terms & Conditions:

1.1.1 CONTRACTOR shall perform safe and timely execution of all work activities described in" CONTRACTOR's Scope".
1.1.2 Work performed by CONTRACTOR will be under the direction of COMPANY supervision. As necessary, additional support or direction can be obtained from the Area Supervisor-in-charge assigned by COMPANY.
1.1.3 CONTRACTOR shall comply with COMPANY's all General Instructions (GI) and Best Practices related to the scope of work. Copies of COMPANY General Instructions will be provided.

1.1.4 Supplying all qualified labor, supervision, tools, equipment, technical support, consumables, expendables, and temporary supplies necessary for, and reasonably related to scope of work.

1.1.5 Providing necessary cranes, lifting gears, valid test certificates, qualified operator with Saudi license and flag man for marching. Crane Operator should ensure out riggers positioned properly and away from concreate joints/loose soil or any other unsafe locations and get approval from "COMPANY" Maintenance prior to start the job

1.1.6 Providing necessary consumable and expendable supplies in enough quality and quantity for personnel to perform the scope of work safely and efficiently.

1.1.7 CONTRACTOR will ensure enough communication devices sets available for his team for effective site communication, which will require COMPANY information technology / security approvals to use right communication devices. However, for a "Contractor's "focal person contact, COMPANY may also provide few sets, if available & allowed by the prevailing rules and regulations at that time & if allowed by Govt Rules & Regulations.

1.1.8 CONTRACTOR shall perform the work on both Day & Night Shifts. Each Working Shift shall be of 12 Hours.

1.1.9 Arranging Breathing Apparatus for blinding, Air compressor, Calibrated Pressure Safety Device and Gauges etc. (Verified Breathing air cylinders contain Grade D air and are not filled via synthetic air blending)

1.1.10 Mobilize sufficient number of cranes based on work scope and accordingly to ensure to meet the TA schedule

1.1.11 If lumpsum jobs get delayed due to non-availability of crane and in such case if COMPANY will provide the required crane to CONTRACTOR, then the cost of crane usage for that period will be back charged to CONTRACTOR.

1.1.12 All the Heavy Equipment, rigging team should have COMPANY approved 3rd party certification and riggers should go through COMPANY's qualification process prior to mobilize.

1.1.13 CONTRACTOR should ensure to have immediate replacement of Crane operator if he is found not meeting company's compliance requirement

1.1.14 All Vacuum truck hoses must perform the continuity test and have tags placed on it. CONTRACTOR to follow COMPANY GI-1259.

1.1.15 CONTRACTOR to ensure the shift turnover for critical and near critical path Equipment to be done at site

1.1.16 CONTRACTOR shall follow COMPANY Fatigue Policy CP # 1055. CONTRACTOR shall mobilize the personnel under their direction to comply with this policy to ensure personnel physical health without negatively affecting TA schedule or quality.

1.1.17 CONTRACTOR will be responsible for Transport, Food, Tea or Coffee for their staff. Company will allocate the Tent Area for Lunch or Dinner.

Actions required After PO Issuance:

1.1.18 CONTRACTOR will arrange receipt and transfer of all non-consumable material from the “COMPANY” T/A Warehouse to the work location. CONTRACTOR will return the balance of unused and undamaged material to the T/A warehouse after completion of work.

1.1.19 Provide forklifts and qualified forklift operators holding valid Saudi driving license. Forklift operators are required to attend “COMPANY” Powered Industrial Truck (PIT) training per “COMPANY” General Instruction. CONTRACTOR will schedule personnel for pre-T/A PIT training at the request and timing specified by “COMPANY” T/A management. Forklift truck will also require the flag man.

1.1.20 All tools, equipment, and resources are subject to initial and periodic inspection by “COMPANY” personnel to ensure safe and compliant use within the “COMPANY” facility. “COMPANY” reserves the right to reject use of any tool(s) or equipment for cause. Tool container shall be provided by CONTRACTOR.

1.1.21 Submit the Organization chart, defined by craft and name, all personnel required to execute and supervise the scope of work, 45 days in advance of the T/A start date as defined by “COMPANY” T/A management. CONTRACTOR will schedule personnel for required pre-T/A training at the request and timing specified by “COMPANY” T/A management and “COMPANY” Safety.

1.1.22 CONTRACTOR shall send their Admin Co-coordinator (Arabic) for coordination with COMPANY'S Admin & Security Department for preparation of ID's etc., as and when required.

1.1.23 CONTRACTOR will get approved Torque value charts equipment wise from COMPANY reliability and provide copy to TA Planning during planning phase, FORTY-FIVE (45) days prior to turnaround.

1.1.24 After issuance of PO, CONTRACTOR will be responsible to submit project manager & planning team names who will be involved with “COMPANY’S TA planning team for joint site visits & any exchange of information. CONTRACTOR’S planning team will be responsible for submitting the Lifting plans, method statements during Planning phase.

1.1.25 Engineering Lift Plan (refer GI 1238) must be submitted 90 days in advance to T.A. for 3rd party approval and necessary preparation works.

1.1.26 All tools, equipment, and resources are subject to initial and periodic inspection by COMPANY personnel to ensure safe and compliant use within the COMPANY facility. COMPANY reserves the right to reject use of any tool(s) or equipment for cause.

1.1.27 CONTRACTOR will be responsible for all site coordination with Planning, Operation, Process & reliability as & when necessary to make sure that there is no lag time in between activities.

1.1.28 Common blinds will be held till all parties finish the work their area.

1.1.29 Follow the blind list and blind specification specified by COMPANY. Any deviation requires COMPANY approval like using less blind thickness.

1.1.30 Provide portable air compressors and certified hoses along with relevant crews as required for the scope of work.

1.1.31 CONTRACTOR will ensure the provision of enough torqueing crews for parallel jobs to avoid any delay because of resource deficiency.

1.1.32 All necessary cleaning tools, “COMPANY” approved sprays & chemicals would be CONTRACTOR’S responsibility.

Safety:

1.1.33 Providing full time Safety personnel whose sole responsibility shall be to ensure CONTRACTOR personnel conduct work in accordance with Rules and Regulations of “COMPANY”, and that good safe work practices are utilized at all times.

1.1.34 Performing work in accordance with “COMPANY” Safety procedures and requirements outlined in the “COMPANY” T/A EH&S Plan and compliance to all “COMPANY” General Instructions (GI). Copies of “COMPANY” General Instructions will be provided.

1.1.35 CONTRACTOR shall provide a well-trained & certified Permit receiver, Hole watch, fire watch & bottle watch.

1.1.36 CONTRACTOR will be responsible for all PPE’s for his manpower and PPE like disposal coveralls etc. to protect from NORM’s for equipment’s maintenance and follow safe disposal of NORM PPE into COMPANY designated bin / area.

1.1.37 CONTRACTOR shall follow COMPANY Fatigue Policy CP # 1055. CONTRACTOR shall mobilize the personnel under their direction to comply with this policy to ensure personnel physical health without negatively affecting TA schedule or quality.

1.1.38 Safety officer’s final acceptance will be after face to face interview with “COMPANY” safety department.

1.1.39 CONTRACTOR will be responsible for all PPE’s for his manpower and PPE like disposal coveralls etc. to protect from NORM’s for equipment’s maintenance and follow safe disposal of NORM PPE into COMPANY designated bin / area.

Planning & monitoring

1.1.40 Visiting the job site to acquaint themselves with existing conditions.

1.1.41 CONTRACTOR’S Site management staff, Equipment and Leadership team like Supervisors/Foremen/Leads, Lead Planner QA/QC, etc. shall comply to the “COMPANY” plan for early mobilization as specified for necessary preparation work to understand the job , for site orientation , Crew’s planning as per P6 schedule , JSA’s , detailed assessment of work requirements , equipment & staff certifications and for setting up agreed temporary installations. CONTRACTOR shall mobilize the before mentioned craft at least by Fifteen (15) days ahead of start of S/D start date unless approved by TA Planning Superintendent or TA Manager and communicated by contracts department

1.1.42 Prestaging activity to be started 4 weeks in advance.

1.1.43 CONTRACTOR will submit daily progress report to TA planning, highlighting the work activities of the day, next day plan, equipment & manpower count, HSE statistics of the site. CONTRACTOR will also issue daily work schedule based on two shifts of 12 hours each

1.1.44 CONTRACTOR shall provide the On-Site Peak load & Org Chart with their technical manpower also on daily progress report.

1.1.45 At the end of the TA activity, a detailed report shall be submitted to COMPANY by CONTRACTOR. CONTRACTOR's Final invoices will be approved on submission of consolidated dossier of NDT reports & Activity Report along with lesson learnt.

1.1.46 CONTRACTOR to provide maintenance progress updates and manpower count to COMPANY during each shift

1.1.47 CONTRACTOR Shall ensure the shift relieving to be done at job site for critical path equipment's

Handling of Additional & Discovery Work

1.1.48 For any additional work, please provide us unit rates for manpower craft wise and for all the Equipment's like cranes, lift trucks, hydro jetting m/c, pressure testing pumps, bundle pullers etc.

1.1.49 Any discovery work shall be invoiced separately and shall be based on "COMPANY" approved CMF (Change Management Form).

Restricted Access - Avoid Unnecessary Movement

1.1.50 Advising and warning CONTRACTOR personnel that Operations Central Control Rooms and other Operations Structures within the "COMPANY" facility are not to be entered or accessed FOR ANY REASON without operations approval and escort. Any unescorted CONTRACTOR found inside a Central Control Room or other Operations Structure is subject to removal and banishment from the "COMPANY" work site.

1.1.51 Advising and warning CONTRACTOR personnel that the Central Maintenance Shops and Maintenance Structures within the "COMPANY" facility are not to be entered or accessed FOR ANY REASON without maintenance approval and escort. Any unescorted CONTRACTOR found inside a Maintenance Shop or other Maintenance Structure is subject to removal and banishment from the "COMPANY" work site.

1.1.52 CONTRACTOR shall ensure presence of their personnel to the designated work area only. Any Person found in or around unrelated plant area, shall be subject to immediate removal from Plant. CONTRACTOR shall provide a suitable replacement immediately to avoid any effect on work progress.

House Keeping

1.1.53 Maintaining a job site that is always clean and free of debris. After completion of work, leave the area as clean as found.

1.1.54 Discarding all coke, sludge, damaged parts, packing/ scrap metals, and all other general rubbish from maintenance activities into designated waste containers provided by COMPANY. The CONTRACTOR shall make arrangements to shift waste containers to temporary waste storage areas designated by COMPANY.

1.1.55 Maintaining a job site that is always clean and free of debris. After completion of work, leave the area as clean as found.

1.2 **COMPANY:**

1.2.1 Isolation and Decontamination of Equipment/system.
1.2.2 Electrical & Instrument disconnections
1.2.3 Battery limit OR common blinding which are common with other contractors.
1.2.4 Any Insulation & Refractory removal, repair or Installation activity
1.2.5 All sort of Painting work.
1.2.6 Erection of all scaffolds and revisions as required by CONTRACTOR
1.2.7 Provide drawings, blinds, gaskets, spares or any other materials and consumables required for facilitate the subject job.
1.2.8 Provide utilities such as water, lights for internal and external use, Scaffolding, Insulation and any type of welding and grinding works recommended by Inspection team.
1.2.9 Office facilities for CONTRACTOR (as decided by COMPANY T/A management, either Blast Resistant Module for essential on-site personnel, or workspace in the T/A office for non-essential personnel)
1.2.10 Verification of All NDT Inspections, verification of work, quality and final approval of cleaning & repair work.
1.2.11 Tent with tables and chairs for CONTRACTOR lunch and rest break
1.2.12 Prayer facilities in designated work locations.
1.2.13 Drinking water around the clock.
1.2.14 All temporary lighting for confined space entry (required by GI, Class-1 Div-1)
1.2.15 All EHS meters and monitors will be provided by COMPANY
1.2.16 All EHS meters and monitors required by General Instruction.
1.2.17 Rest Shelters in designated work locations
1.2.18 Smoke Shelters in designated work locations
1.2.19 Sanitary facilities (toilets and hand wash stations)
1.2.20 All non-consumable material required to perform the scope of work
1.2.21 Inspection of work performed by CONTRACTOR
1.2.22 Making Equipment’s ready to blind.
1.2.23 COMPANY will provide manifest for the disposal of any spent catalyst.
1.2.24 Conduct BSO Course and required courses for Permit Receiver (as required).
1.2.25 Issuance of ID cards and Vehicle stickers.
1.2.26 Issuance of material gate passes.
1.2.27 Issuance of Work Permits.

2. DESCRIPTION OF WORK-SPECIFIC:

2.1 **PRD SCOPE OF WORK:**

PRD removal and Reinstallation as per specified in detailed scope given below.

RESPONS	
CONTR	**S-CHEM**
➢ Removal of PRD's from location and shift PRD to designated area inside S-chem facility ➢ Blind both piping side with end blinds. ➢ Collect the PRD's from lay down yard/Turnaround warehouse and shift to location. ➢ Remove end blinds & Re-install PRD ➢ PRDs for replace shall be collected	➢ Decontamination and Isolation of system/equipment, ➢ Provide drawings and Gaskets/ materials, Blinds & Stud Bolts ➢ Provide utility such as water, lighting.

Note: Contractor should take care of below points and make arrangements accordingly.

Note:

- Contractor should evaluate the valves independently and arrange crane and other resources according to requirement.
- Contractor should collect end blinds from TA warehouse and returned upon completion of the work.

Sl. No	Area	Serial Number	Tag No	Inlet Size	Outlet Size	Remarks
1	1	SPCo-NP-1088	41PRD-70165A	1/2"X1500	1"X300	
2	1	SPCo-NP-1089	41PRD-70165B	1/2"X1500	1"X300	
3	1	SPCo-NP-1090	41PRD-70165C	1/2"X1500	1"X300	
4	1	SPCo-NP-1091	41PRD-70165D	1/2"X1500	1"X300	
5	1	SPCo-NP-1092	41PRD-70165E	1/2"X1500	1"X300	
6	1	SPCo-NP-1093	41PRD-70165F	1/2"X1500	1"X300	
7	1	SPCo-NP-1094	41PRD-70165G	1/2"X1500	1"X300	

8	1	SPCo-NP-1095	41PRD-70165H	1/2"X1500	1"X300	
9	1	SPCo-NP-1097	41PRD-70165J	1/2"X1500	1"X300	
10	3	SPCo-NP-0186	41PRD-20039A	36"X150	36"X150	
11	3	SPCo-NP-0188	41PRD-20422	1"X300	2"X300	
12	3	SPCo-NP-0190	41PRD-20686	2"X150	3"X150	
13	3	SPCo-NP-0487	41PRD-50160	12"X150	Breather valve	
14	3	SPCo-NP-0500	41PRD-20623	1"X150	2"X150	Replace
15	3	SPCo-NP-0947	41PRD-20619	2"X150	3"X150	
16	3	SPCo-NP-1063	41PRD-20732	1"X300	2"X150	
17	3	SPCo-NP-1071	41PRD-20715	1"X300	2"X150	
18	3	SPCo-NP-1073	41PRD-50151	3"X150	Breather valve	
19	3	SPCo-NP-1074	41PRD-50152	6"X150	Breather valve	
20	3	SPCo-NP-1075	41PRD-50153	10"X150	Breather valve	
21	3	SPCo-NP-1076	41PRD-50155	12"X150	Breather valve	
22	3	SPCo-NP-1078	41PRD-50166A	36"X150	36"X150	
23	3	SPCo-NP-1079	41PRD-50166B	10"X150	10"X150	
24	3	SPCo-NP-1080	41PRD-50378	1"X150	3"X150	
25	3	SPCo-NP-1085	41PRD-60322	1"X150	2"X150	Replace
26	3	SPCo-NP-1086	41PRD-60378	1-1/2"X150	3"X150	
27	3	SPCo-NP-1087	41PRD-60392	1"X300	2"X150	
28	3	SPCo-NP-1098	41PRD-20038A	6"X600	8"X150	
29	3	SPCo-NP-1702	41PRD-50150	3"X150	Breather valve	
30	3	SPCo-NP-1892	41PRD-20010	3"X150	4"X150	
31	3	SPCo-NP-1894	41PRD-60406	3/4"XNPT	1"XNPTF	
32	3	SPCo-NP-1895	41PRD-60407	3/4"XNPT	1"XNPTF	

33	3	SPCo-NP-1896	41PRD-20406	3/4"XNPT	1"XNPTF	
34	3	SPCo-NP-1901	41PRD-60129A	24"X150	24"X150	
35	3	SPCo-NP-1902	41PRD-20407	3/4"XNPT	1"XNPTF	
36	3	SPCo-NP-1903	41PRD-50407	3/4"XNPT	1"XNPTF	
37	3	SPCo-NP-1904	41PRD-50406	3/4"XNPT	1"XNPTF	
38	3	SPCo-NP-1914	41PRD-60312	2"X150	3"X150	
39	3	SPCo-NP-1915	41PRD-60314	2"X150	3"X150	
40	4	SPCo-NP-0189	41PRD-20458	3"X150	Breather valve	
41	9	SPCo-NP-1883	46PRD-30009	1"X600	2"X150	
42	9	SPCo-NP-1884	46PRD-30010	1"X600	2"X150	
43	9	SPCo-NP-1885	46PRD-30012	1"X600	2"X150	
44	9	SPCo-NP-1886	46PRD-30015	1"X300	2"X150	
45	9	SPCo-NP-1887	46PRD-30016	1"X600	2"X150	
46	2	SPCo-NP-1961	41PRD-10016C	8” X 300	10” X 150	

2.2 **CONTROL VALVES SCOPE OF WORK:**

Control Valves (CV’s) Removal and Reinstallation as per specified in detailed scope given below

RESPONSIB	
CONTRA	**S-CHEM**

➢ Removal of CV's from location and shift CV to designated area inside S-chem facility ➢ Blind both piping side with end blinds. ➢ Collect the CV's from lay down yard/Turnaround warehouse and shift to location. ➢ Remove end blinds & Re-install CV ➢ Torque as needed. ➢ CV's for replace shall be collected from Turnaround warehouse and the removed CV's should hand over to T/A warehouse. ➢ CV's having presence of NORMS shall be transported to Cleaning pad for Hydro clean. After Hydro clean send to TA Yard. (CV's having potential for	➢ Decontamination and Isolation of system/equipment, ➢ Provide drawings and Gaskets/ materials, Blinds & Stud Bolts ➢ Provide utility such as water, lighting. ➢ Disconnection and Connection of Instrument connections.

Note: Contractor should take care of below points and make arrangements accordingly.

Note:

- Contractor should evaluate the valves independently and arrange crane and other resources according to requirement.
- Contractor should collect end blinds from TA warehouse and returned upon completion of the work.
- CV's having presence of NORMS shall be transported to Cleaning pad for Hydro clean. After Hydro clean send to TA Yard. Take Proper Precautions for NORM Presence equipment.

SL #	Area	Line#	Tag#	Size	Rating	Qty	Remarks
1	2	SPCo-NP-0538	41PV-70410B	4"	2500	1 EA	
2	2	SPCo-NP-0539	41PV-70423	16" X 24"	600	1 EA	
3	2	SPCo-NP-0551	41PV-70410A	12"	2500	1 EA	
4	2	SPCo-NP-0553	41FV-10020	12"	300	1 EA	
5	3	SPCo-NP-0504	41FV-50008	18"	300	1 EA	
6	3	SPCo-NP-0509	41TV-50002	6"	300	1 EA	NORMS
7	3	SPCo-NP-0510	41FV-50003	10"	300	1 EA	NORMS
8	3	SPCo-NP-0511	41FV-50006	16"	300	1 EA	NORMS
9	3	SPCo-NP-0514	41HV-50003	24"	300	1 EA	NORMS
10	3	SPCo-NP-0515	41HV-60006	8"	600	1 EA	
11	3	SPCo-NP-0523	41TV-50001	8"	300	1 EA	NORMS
12	3	SPCo-NP-0524	41TV-50003	3"	300	1 EA	NORMS
13	3	SPCo-NP-0530	41XV-50157X	26"	300	1 EA	
14	3	SPCo-NP-0536	41FV-50001	36" X	300	1 EA	NORMS

				42"			
15	3	SPCo-NP-0537	41FV-50002	20" X 30"	300	1 EA	NORMS
16	3	SPCo-NP-0541	41XV-60107X	20"	150	1 EA	
17	3	SPCo-NP-0542	41FV-20028	36" X 42"	150	1 EA	
18	3	SPCo-NP-0543	41FV-20001	20" X 30"	150	1 EA	
19	3	SPCo-NP-0547	41HV-50001	20" X 30"	300	1 EA	NORMS
20	3	SPCo-NP-0552	41XV-20462X	20"	600	1 EA	
21	3	SPCo-NP-0554	41XV-20385Y	18"	300	1 EA	
22	3	SPCo-NP-0949	41PCV-50320	2"	150	1 EA	REPLACE
23	3	SPCo-NP-0950	41PCV-20613	2"	150	1 EA	REPLACE
24	3	SPCo-NP-1155	41PCV-20616	3"	150	1 EA	REPLACE
25	3	SPCo-NP-1190	41PCV-50311	3"	150	1 EA	REPLACE
26	3	SPCo-NP-1217	41PCV-60311	3"	150	1 EA	REPLACE
27	3	SPCo-NP-1533	41PCV-60320	2"	150	1 EA	REPLACE
28	4	SPCo-NP-0503	41PV-70431	6"	300	1 EA	
29	4	SPCo-NP-0540	41PV-70439	16	150	1 EA	
30	4	SPCo-NP-1306	41XV-20253A	12"	300	1 EA	
31	4	SPCo-NP-1307	41XV-20253B	12"	300	1 EA	
32	4	SPCo-NP-1308	41XV-20267A	12"	300	1 EA	
33	4	SPCo-NP-1309	41XV-20267B	12"	300	1 EA	
34	4	SPCo-NP-1310	41XV-20273A	12"	300	1 EA	
35	4	SPCo-NP-1311	41XV-20273B	12"	300	1 EA	
36	4	SPCo-NP-1312	41XV-20247A	12"	300	1 EA	
37	4	SPCo-NP-1313	41XV-20247B	12"	300	1 EA	
38	9	SPCo-NP-0531	46EXV-30102	8"	150	1 EA	
39	9	SPCo-NP-0533	46FV-20001	12"	150	1 EA	
40	9	SPCo-NP-1741	46XV-30149A	2"	600	1 EA	
41	3	SPCo-NP-1962	41LV20010	1"	300	1 EA	
42	2	SPCo-NP-1998	41PV10001	1"	300	1 EA	
43	4	SPCo-NP-2006	41FV20007	6”	300	1 EA	

2.3 **PIPING COLD WORKS SCOPE OF WORK**

Perform Piping Cold Works as per specified in detailed scope given below:

Sl. No	**Area**	**Line number**	**Tag No**	**Scope of Work**	**Size & Qty**
1	1	SPCo-NP-1345	41X51	Contractor shall verify the LTT Drop 41X51 de-superheater, Install Blinds Offer for insp & Perform cleaning	24" X 300- 1 Nos 3"X 300 - 1 Nos

				of Nozzles. Remove Blinds & Re-install 41X51 de-superheaters Remove existing 3" check valve, Clean flange face & Replace with new one Torque as applicable	
2	2	SPCo-NP-0483	41P57	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	4"X150 - 1 nos
3	2	SPCo-NP-0497	41P13	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	8" X 300- 1 nos
4	2	SPCo-NP-1344	41X50A/B	Contractor shall verify the LTT Modify structure as needed Drop 41X50 A & B de-superheaters, Install Blinds Offer for insp & Perform cleaning of Nozzles. Re-install 41X50A & B de-superheaters Perform tensioning for 41X50A Remove existing 4" check valve, Clean flange face & Replace with new one Remove existing 1.5" check valve with spool, Clean flange face & Replace with new spool Torque as applicable	24" X 2500- 1nos 10" X 1500- 1Nos 4" X 1500- 1Nos 1.5"X 1500- Spool 1 nos (1200mm long)
5	2	SPCo-NP-1737	41Y29	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	18" X 300- 1 Nos
6	3	SPCo-NP-0421	41PRD-20038A	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	10" X 300- 1 nos
7	3	SPCo-NP-0426	41D42	41D42 IPL NRV Inspection Contractor shall verify the LTT Drop check valves & install blinds Hydro clean / hand clean check valves Offer for visual insp by reliability Remove blinds & install check valves	54" X 300- 1 nos

				Torque as applicable	
8	3	SPCo-NP-0427	41D45	41D45 IPL NRV Inspection Contractor shall verify the LTT Drop check valves & install blinds Hydro clean / hand clean check valves Offer for visual insp by reliability Remove blinds & install check valves Torque as applicable	42"X 300- 1 nos
9	3	SPCo-NP-0429	41TV20003	41TV20003 IPL NRV Inspection Contractor shall verify the LTT Drop check valves & install blinds Hydro clean / hand clean check valves Offer for visual insp by reliability Remove blinds & install check valves Torque as applicable	4" X 300 -2 nos
10	3	SPCo-NP-0430	41XV20389X	41XV20389X IPL NRV Inspection Contractor shall verify the LTT Drop check valves & install blinds Hydro clean / hand clean check valves Offer for visual insp by reliability Remove blinds & install check valves Torque as applicable	14"X 300- -2 nos
11	3	SPCo-NP-0477	41KT14	Contractor shall verify the LTT Remove existing 41FG50312 & Install new FG	4"X150 - 1 nos
12	3	SPCo-NP-0479	41PCV-60311	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	3"X150 - 1 nos 4"X150 - 2 nos
13	3	SPCo-NP-0480	41PCV-20616	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	3"X150 - 1 nos 4"X150 - 2 nos
14	3	SPCo-NP-0481	41PCV-50311	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	3"X150 - 1 nos 4"X150 - 2 nos
15	3	SPCo-NP-0491	41Y38A/B	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	4" X 300- 1 nos

16	3	SPCo-NP-0496	41D41	Contractor shall verify the LTT Remove existing check valve, Clean flange face & Replace with new one Torque as applicable	2" X150 - 1 nos
17	3	SPCo-NP-0555	41E136A	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	6" X150 - 2 nos
18	3	SPCo-NP-0556	41E146A	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	6" X150 - 2 nos
19	3	SPCo-NP-0557	41E136B	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	6" X150 - 2 nos
20	3	SPCo-NP-0558	41E146B	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	6" X150 - 2 nos
21	3	SPCo-NP-0559	41E156A	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	6" X150 - 2 nos
22	3	SPCo-NP-0560	41E156B	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	6" X150 - 2 nos
23	3	SPCo-NP-1195	41P19A	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	2" X 300- 1 nos
24	3	SPCo-NP-1738	41E54A	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	3"X 150 - 2 Nos
25	3	SPCo-NP-1742	41XV20462X	Contractor shall verify the LTT Remove existing spacer, Clean flange face & Replace gasket Torque as applicable	1.5"X 600 - 1 Nos
26	3	SPCo-NP-1668	AS-4109	Contractor shall verify the LTT Cold cut & Remove the clamped	1” Sch-80 Pipe 500MM

				portion from both lines Take field measurement, cut & Fabricate the new threaded spool pieces for both lines (After cutting, hand over the spool piece to s-chem shop for preparing thread) Apply sealant, Install the spool pieces & tight as needed	1” Threaded Flange-2 nos 1” elbow -4 nos
27	4	SPCo-NP-0428	41TV20002	41TV20002 IPL NRV Inspection Contractor shall verify the LTT Drop check valves & install blinds Hydro clean / hand clean check valves Offer for visual insp by reliability Remove blinds & install check valves Torque as applicable	12"X 300- 2 nos
28	4	SPCo-NP-0431	41FV20018	41FV20018 IPL NRV Inspection Contractor shall verify the LTT Drop check valves & install blinds Hydro clean / hand clean check valves Offer for visual insp by reliability Remove blinds & install check valves Torque as applicable	3"X150 - 1 nos
29	4	SPCo-NP-1346	41X52	Contractor shall verify the LTT Drop 41X51 de-superheater, Install Blinds Offer for insp & Perform cleaning of Nozzles. Remove Blinds & Re-install 41X501 de-superheaters Remove existing 2" check valve, Clean flange face & Replace with new one Torque as applicable	24" X 300- 1 Nos 2"X 150 - 1 Nos
30	9	SPCo-NP-0444	46F01	Drop check valves & install blinds Hydro clean Check valves Offer for visual inspection by reliability Checking to ensure that the flapper is free to move, as required Remove blinds & Re-Install check valves	2”X300 - 2Nos
31	9	SPCo-NP-0445	46E26	Drop check valves & install blinds Hydro clean Check valves Offer for visual inspection by reliability	4”X300-2Nos

				Checking to ensure that the flapper is free to move, as required Remove blinds & Re-Install check valves	
32	9	SPCo-NP-0446	46X01	Drop check valves & install blinds Hydro clean Check valves Offer for visual inspection by reliability Checking to ensure that the flapper is free to move, as required Remove blinds & Re-Install check valves	24”X150-1No
33	9	SPCo-NP-0447	46FV30004	Drop check valves & install blinds Hydro clean Check valves Offer for visual inspection by reliability Checking to ensure that the flapper is free to move, as required Remove blinds & Re-Install check valves	6”X600-2Nos
34	9	SPCo-NP-0448	'RGS-46027-3”-6CS1S	Drop check valves & install blinds Hydro clean Check valves Offer for visual inspection by reliability Checking to ensure that the flapper is free to move, as required Remove blinds & Re-Install check valves	3”X600-2Nos
35	9	SPCo-NP-0449	N-46005-2”-3CS1S	Drop check valves & install blinds Hydro clean Check valves Offer for visual inspection by reliability Checking to ensure that the flapper is free to move, as required Remove blinds & Re-Install check valves	2”X300-2Nos
36	9	SPCo-NP-0459	46E03	Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	12”X300-1No
37	9	SPCo-NP-1219	46D34	46PRD40001A bypass valve Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one	2”x300-1No

				Torque as applicable	
38	9	SPCo-NP-1732	46E30	Replace CWS & CWR Passing B/V's Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	6”X150-2Nos
39	9	SPCo-NP-1733	46P05B	Replace Inlet & Outlet ISO valves Contractor shall verify the LTT Remove existing valve, Clean flange face & Replace with new one Torque as applicable	6”X600-1No 10”X600-1No
40	1	SPCo-NP-1991	41F05	Contractor shall verify the LTT. Remove valve Clean the flange face and offer for inspection. Install the new valve with new gasket Box up and torque.	12” X 150 – 1No
41	2	SPCo-NP-1956	41PRD-10016C	Contractor shall verify the LTT. Drop valve. Flange cleaning and offer for inspection. Replace gasket reinstall the valve. Box up and torque.	14” X600 – 1No
42	2	SPCo-NP-1958	41S17A/B/C	Blind as per blind list. BA apparatus required. Drop pipe spools and valves Hydro Jetting / blasting on dropped spools and valves Air blowing the line Offer for inspection. Reinstall the spools and valves with new gaskets De-blinding and torque.	4” X 300 – 2Nos 3” X 300 – 3 Nos 2” X 300 – 3Nos.
43	3	SPCo-NP-1194	41KT14	Contractor shall verify the LTT Drop Piping Spool Flange cleaning and offer for inspection. Replace gasket and Install new Spool. Box up and torque.	2”X600-1No
44	3	SPCo-NP-1952	41D84	3" FOS from the 41P46 discharge going to 41d84 u/s the 41prd5007(ncp-41-p1-ef-504) Contractor shall verify the LTT. Removal of orifice plate. Clean the flange face. Offer for inspection. Reinstall the orifice plate with new	3” X 300 – 1 No

				gasket. Torquing the flange.	
45	9	SPCo-NP-1948	41X54	Contractor shall verify the LTT Drop valve Flange cleaning and offer for inspection. Replace gasket reinstall the valve. Box up and torque.	10”X300-1No
46	5	SPCo-NP-1959	41F06	Contractor shall verify the LTT Remove existing valve, Clean flange face and offer for inspection Replace with new Valve Torque as applicable	12” X 150# - 1 no
47	9	SPCo-NP-1641	SIS-NP-46FE30017-46E14-PM72	Contractor shall verify the LTT Remove / Drop FE (Orifice) for Inspection (3" X 600lbs) - Re-Installation of FE	3”X600# - 1no.
48	2	SPCo-NP-0281	41FE10024	Contractor shall verify the LTT Remove Clamp. Drop Annubar Clean flange face and offer for inspection Replace to install new Annubar and Box up Torque as applicable	3” X 300# -1 No
49	2	SPCo-NP-0289	41FE10025	Contractor shall verify the LTT Remove Clamp. Drop Annubar Clean flange face and offer for inspection Replace to install new Annubar and Box up Torque as applicable	3” X 150# -1 No
50	3	SPCo-NP-0478	41FE10018	Contractor shall verify the LTT Drop Annubar Clean flange face and offer for inspection Re-Install Annubar and Box up Torque as applicable	3” X 150# -1 No
51	9	SPCo-NP-1577	46FE-20001	Contractor shall verify the LTT Drop Annubar Clean flange face and offer for inspection Re-Install Annubar and Box up Torque as applicable	3” X 150# -1 No
52	9	SPCo-NP-1578	46FE-50315	Contractor shall verify the LTT Drop Annubar Clean flange face and offer for inspection Re-Install Annubar and Box up Torque as applicable	1.5” X 150# -1 No

2.4 **STRAINER SCOPE OF WORK:**

Strainer Inspection and Cleaning as per specified in detailed scope given below

Sl. No	Area	Line number	Tag No	Scope of Work	Size & Qty
1	3	SPCo-NP-1188	41K11	SP-41T120/121/122/123 Contractor shall verify the LTT Open End Flange, Remove ‘ Tee’ type strainer, Offer for Inspection from operation /Reliability, Hydro clean strainer and piping, Re-instate the strainer in position, Offer for final inspection from operation/Reliability Box-up End Flange and apply torque as approved by Reliability. Remove LTT and prepare for commissioning.	60"X 150- 2 nos 54"X150-1 nos 48"X150-1 nos
2	3	SPCo-NP-1250	41K14	SP-41T153/154/156 Contractor shall verify the LTT Open End Flange, Remove ‘Angle Tee’ type strainer, Offer for Inspection from operation /Reliability, Hand clean strainer and piping(Do not wet) Re-instate the strainer in position, Offer for final inspection from operation/Reliability Box-up End Flange and apply torque as approved by Reliability. Remove LTT and prepare for commissioning.	72" X300-1 Nos 54" X300-1 Nos 20" X300-1 Nos
3	3	SPCo-NP-1251	41K15	SP-41T159/160/161 Contractor shall verify the LTT Open End Flange, Remove ‘Angle Tee’ type strainer, Offer for Inspection from operation /Reliability, Hand clean strainer and piping (Do not wet) Re-instate the strainer in position, Offer for final inspection from operation/Reliability Box-up End Flange and apply torque as approved by Reliability.	30" X300-1 Nos 30" X300-1 Nos 16" X300-1 Nos

2.5 **FURNACE SCOPE OF WORK:**

Furnace Inspection and Cleaning as per specified in detailed scope given below

SL#	CONTRACTOR	S-CHEM
	46F01 - DP REACTOR FEED HEATER	
	➢ Blind as per operation blind list ➢ Initial inspection shall be done after opening the bottom and top manway. ➢ Cleaning shall be carried out as per PE/OP and offer for detailed inspection (erect scaffolding if needed). ➢ Internal refractory, bricks and insulation cladding shall be offered for detailed inspection. ➢ Repair damaged insulation and refractory as per reliability recommendation, (by SChem) ➢ Radiant coils shall be cleaned and offered for inspection for bowing, sagging. ➢ Burner shall be cleaned and offered for detailed inspection. ➢ UTT / Hardness test shall be done for the tubes. ➢ RT shall be done for the random tubes weld joint. ➢ Tube die shall be measured using vernier caliber to ensure there is no creep. ➢ Damper shall be inspected and ensured that it is in operatable condition. ➢ Stack shall be inspected visually. ➢ Peep holes shall be monitored. ➢ Box-up manways and apply torque as required. ➢ Remove blinds and prepare for commissioning.	➢ Isolation and decontamination of equipment/system. ➢ System blinding and common blinding which interacted with others. ➢ Provide drawings, materials, hardware, blinds, and gaskets etc. ➢ Utilities such as water, internal and external lightings ➢ Scaffolding (internal and external), insulation and any type of welding/grinding works. ➢ Refractory repairing works ➢ All NDT requirements

2.6 **DECOMMISSION AND COMMISSION SUPPORT:**

➢ Contractor to support S-Chem maintenance for decommissioning & commissioning activities by providing the below mentioned manpower

- Decommissioning

Craft	Tentative Quantity	Tentative days Day's
Pipe fitter	16	12
Foreman/Permit receiver	2	12

- Commissioning

Craft	Tentative Quantity	Tentative days Day's
Pipe fitter	16	12
Foreman/Permit receiver	2	12

Quantity is tentative & Invoicing shall be done on time sheets based on actual site requirement

2.7 **UNDEFINED JOBS:**

RESPONSIBILITY MATRIX			
S.NO	CONTRACTOR		TERMS & CONDITIONS
	JOB DESCRIPTION	SPECIFICATION	➢ Contractor shall provide detailed proposal for each size individually. ➢ Contractor shall not submit the proposal by Time and Material basis, and it should be for unit rate. ➢ Contractor shall submit hourly unit rates for usage of Crane, Forklift or any other equipment used for facilitating the work. ➢ S-chem will provide blind, Gasket, fastener, or any other hardware that required for complete the work.
1	Steam Hose Connection	1" to 3"	
2	Utility Hose Connection (water/Air, N2)	1/2" to 3"	
3	Blinding/De-blinding with Breathing Apparatus	1/2" x 150 psi to 60" x 150 psi	
4	Blinding/De-blinding with Breathing Apparatus	1/2" x 300 psi to 60" x 300 psi	
5	Blinding/De-blinding	1/2" x 150 psi to 60" x 150 psi	
6	Blinding/De-blinding	1/2" x 300 psi to 60" x 300 psi	
7	Gasket Replacement	½" x 150 psi to 60" x 150 psi	
8	Gasket Replacement	½" x 300 psi to 60" x 300 psi	
9	Replace screwed Valves	¾" x 150 psi to 1 ½" 150 psi	
10	Replace screwed Valves	¾" x 300 psi to 1 ½"	

		300 psi	
11	Replace Flanged Valves	¾” x 150 psi to 54” x 150 psi	
12	Replace Flanged Valves	¾” x 300 psi to 54” x 300 psi	
13	Replace Flanged PRD Valves	¾” x 150 psi to 24” x 150 psi	
14	Replace Flanged PRD Valves	¾” x 300 psi to 24” x 300 psi	

2.8 Tentative work Schedule:

2.8.1 TA commencement date (tentative) – From 1st Oct’ 2022 Tentative system wise Maintenance window (Excel attachment sheet- Tentative Maintenance window PKG 1). However, CONTRACTOR shall follow the COMPANY level 3 firm schedule provided to CONTRACTOR.

3 DRAWINGS, SPECIFICATIONS & PROCEDURES

Specifications, standards, procedures, drawings and Company’s General Instructions shall apply to Engineering and construction works when applicable. All above documents shall be collected from Turnaround Planning Section after having NDA signed with COMPANY.

4 GUIDELINES

4.1 All work should follow COMPANY Standards and Specifications.

4.2 All work outside the above codes, standards and specifications shall follow COMPANY guidelines and practices.

4.3 CONTRACTOR shall comply with COMPANY Policies, General Instructions and Work Procedures regarding the use of Personal Protective Equipment’s (PPE).

4.4 CONTRACTOR shall comply with COMPANY Safety and Security program Exhibit III (more details can be sought out later by CONTRACTOR as applicable)

4.5 COMPANY may from time to time and at any time require CONTRACTOR to suspend performance hereunder completely or partially for whatever length of time COMPANY may elect. The time for completion shall be extended by each period that the completion date is necessarily delayed by (a) the actions or omissions of COMPANY or another independent contractor that is directly responsible to COMPANY (unless such delay is due to CONTRACTOR's actions or failures to act). In case COMPANY

requires suspending the performance of work, CONTRACTOR shall be given reasonable delivery extensions.

4.6 CONTRACTOR shall provide a qualified safety officer when there is work in the Plant. This safety officer shall not do any other work, other than safety.

4.7 Anything not listed in the CONTRACTOR's offer / Exhibit – I, Scope of Work, but appearing on the drawings / attachments shall be completed by CONTRACTOR, with no additional charges.

4.8 CONTRACTOR should utilize COMPANY recommended sub-contractors / manufacturers, as per Exhibit I Scope of Work, Attachment -I.

4.9 CONTRACTOR shall ensure presence of their personnel to the designated work area only. Any Person found in or around unrelated plant area, shall be subject to immediate removal from Plant. CONTRACTOR shall provide a suitable replacement immediately to avoid any effect on work progress

5.0 GENERAL REQUIREMENT

The Section 3.0 above shall prevail in the event of any inconsistency on the text hereunder.

5.1 COMPANY's REPRESENTATIVE

COMPANY will maintain, as required, a representative hereafter called the "COMPANY Representative". COMPANY Representative will provide liaison between COMPANY and CONTRACTOR and represent COMPANY in all matters covered by this Contract, including negotiating and approving changes.

COMPANY's Representative will be the only COMPANY employee authorized to represent COMPANY with respect to this Contract. Examples of his functions are to:

5.1.1 Review and approve designs, specifications, requisitions and purchase orders as required by this Contract.

5.1.2 Establish and maintain field liaison between CONTRACTOR's Representative and COMPANY.

5.1.3 Review CONTRACTOR's construction schedule and field performance.

5.1.4 Make such inspections of the Facility during construction, as COMPANY may desire in order to check the progress of the Work and quality of workmanship and Materials.

5.1.5 Negotiate and approve field changes.

5.1.6 Review CONTRACTOR’s administrative procedures.

5.1.7 If, in COMPANY's considered opinion, the conduct or performance of any of CONTRACTOR's personnel is unsatisfactory in any way, CONTRACTOR, if COMPANY so requests, shall at CONTRACTOR's sole cost and expense promptly replace such person or persons with personnel suitably qualified.

At the start of Work, CONTRACTOR shall develop procedures for handling correspondence, Material orders, quotation analyses, drawings, schedules and other administrative or engineering aspects of Work to the satisfaction of COMPANY.

5.2 CONTRACTOR’s PERSONNEL

CONTRACTOR shall assign a full-time Project Manager (hereafter called “CONTRACTOR Representative”) to provide liaison between CONTRACTOR and COMPANY and to represent CONTRACTOR in all matters covered by this Contract, including negotiating and approving COMPANY’s authorized changes. The CONTRACTOR’s Representative shall not be changed during the course of the Work unless COMPANY approves such change in writing.

When fieldwork is in progress CONTRACTOR’s Representative shall act in full charge of CONTRACTOR’s fieldwork and maintain field liaison between CONTRACTOR and COMPANY’s Representatives. Examples of his functions are to:

5.2.1 Negotiate and approve for CONTRACTOR, COMPANY’s field changes authorized by COMPANY.

5.2.2 Represent CONTRACTOR in matters pertaining to construction performance and quality, scheduling, administrative procedures and financial controls

5.2.3 Represent CONTRACTOR during all required tests.

5.2.4 Coordinate with COMPANY Project Engineer on all job activities

5.2.5 Remove any person from CONTRACTOR staff in case the same is not fully complying with the COMPANY requirements or when requested by COMPANY Representative and shall provide a suitable replacement within a week time and without affecting the work progress.

5.3 KEY PERSONNEL

CONTRACTOR shall maintain the following persons at the job site on a full-time basis at all times during the course of the Work and shall not

remove or reassign such personnel without COMPANY's prior approval:

a. CONTRACTOR's Project Manager
b. Safety Engineer
c. Quality Control Engineer.
d. Work Permit Receiver
e. Direct working resources and staff.

5.4 SPECIAL TOOLS FOR EQUIPMENT INSTALLATION

All special tools and/or equipment required for installation and/or maintenance of equipment shall be furnished by CONTRACTOR.

5.5 WORK PERMITS

At least thirty (30) days prior to mobilization, CONTRACTOR shall familiarize himself with COMPANY's Plant Operations and Maintenance Work Permit procedures and CONRACTOR's workers shall be trained to receive Work Permits in a timely manner. After approval by COMPANY, CONTRACTOR shall comply with this Work Permit procedure. COMPANY will not be responsible for delays due to CONTRACTOR's failure to submit its Work Permits in a timely fashion or failure to comply with the approved Work Permit procedure.

5.6 FIELD INSPECTION

5.6.1 Inspection by COMPANY

COMPANY may visit and inspect any and all of the Work and Materials at any time, and CONTRACTOR shall provide safe and proper facilities therefor. CONTRACTOR shall at all times during the performance of the Work keep a competent supervisor, fluent in the English language, in the immediate vicinity of the Work areas to receive communications from COMPANY and to supervise the performance of this Contract.

COMPANY shall inspect all works and witness all tests. Prior notice shall be given to COMPANY for any inspection or witnessing as:

a. THREE (03) working days for inside the COMPANY facility.

b. FOURTEEN (14) working days for outside the COMPANY facility.

c. Testing requirements shall be based on COMPANY inputs.

d. CONTRACTOR to determine hold points for inspection and test witnessing.

e. COMPANY reserves the right to assign any 3rd party inspection agency, as needed.

5.6.2 CONTRACTOR's Inspection Responsibility

CONTRACTOR shall be solely responsible for thorough inspection and testing of the Work and for the quality of the Work. COMPANY's inspection of, testing of, approval of, or agreement to the performance of any part of the Work shall in no way relieve CONTRACTOR of its responsibility for the Work. CONTRACTOR shall:

5.6.2.1 Submit Inspection Testing Plan for COMPANY review and comments.

5.6.2.2 Welders must be tested & certified by COMPANY, in order to avoid re-do jobs & only those qualified welders to work on this project.

5.6.2.3 In case of HDPE fusion welding CONTRACTOR must be qualified by COMPANY for both the machine and operator.

5.6.2.4 For NDT related works the interpretation must be done by qualified independent level 2 or 3 person.

5.6.2.5 Must submit their QA/QC for review and approval including Welding Procedure & Specification (WPS) & Project Quality Records (PQR's) prior to awarding of contract.

5.6.3 Inspection by CONTRACTOR

Whenever any part of CONTRACTOR's Work depends on existing work or work or Material provided by COMPANY or others, CONTRACTOR shall inspect and measure such other work or Material and promptly notify COMPANY of each defect or discrepancy in such other work or Material that may render it unsuitable for proper execution of CONTRACTOR's Work or proper functioning of the Facility. If CONTRACTOR fails to notify COMPANY's Representative of any such defect or discrepancy before performing CONTRACTOR's independent Work, and such defect or discrepancy would have been discovered in the course of a reasonably thorough visual inspection and measurement, COMPANY may condemn the Work or Material involved and CONTRACTOR shall correct such defect or discrepancy on the same basis as if it were defective

Work by CONTRACTOR as per General Terms and Conditions (copy attached).

5.7 COMPLETION

5.7.1 Mechanical Completion

CONTRACTOR shall cause Mechanical Completion of the Facility to occur. Mechanical Completion shall mean that all requirements of this Contract have been met with respect to:

5.7.1.1 Construction
5.7.1.2 Safety
5.7.1.3 Ability to physically operate

Prior to Mechanical Completion, CONTRACTOR shall demonstrate to COMPANY all portions of the facility:

- have been built according to the terms of this contract
- operate as intended

5.7.2 Acceptance by COMPANY

All Work will be subject to Acceptance by COMPANY pursuant this Exhibit–I Scope of Work

5.8 TIME FOR COMPLETION

5.8.1 Initial Time for Completion

CONTRACTOR shall cause the Facility to achieve Mechanical Completion, on or before the applicable date specified in the contract. The time for completion shall be extended only in accordance with the provisions of the Terms and Conditions. COMPANY shall reduce the time for completion only with the written consent of CONTRACTOR.

5.8.2 Failure to Maintain Schedule

If at any time during the progress of the Work, CONTRACTOR's actual progress is inadequate to meet the approved schedule and as established, COMPANY shall have the right, but not the obligation, to so notify CONTRACTOR who shall thereupon take such steps as may be necessary to remedy the inadequacy. If within a reasonable period (as determined by COMPANY and not to exceed THREE (03) working days) CONTRACTOR does not improve performance to meet the schedule, COMPANY may require an increase in labor force, number of shifts, overtime operations, or additional days of work per week without additional compensation to CONTRACTOR, to eliminate or reduce the possibility of delayed completion. COMPANY may

make such requirements in addition to any other rights or remedies that COMPANY may have.

5.8.3 Failure to Complete on Schedule

If CONTRACTOR does not cause the Facility to achieve Mechanical Completion within the time, COMPANY may elect to take over and complete the Work pursuant to the Terms and Conditions. COMPANY may take over and complete the Work in addition to any other rights or remedies that COMPANY may have.

6.0 MATERIALS, SERVICES AND UTILITIES FURNISHED BY COMPANY

COMPANY shall furnish or cause to be furnished to CONTRACTOR, the following items for or in connection with performance of the Work.

6.1 **COMPANY** shall provide: Please refer clause no. 1.2, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7 (Responsibility matrix COMPANY) & 3

6.2 In addition to Clause no. 1.1, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7 (Responsibility matrix CONTRACTOR) CONTRACTOR should provide

6.2.1 Providing a Level –II T/A schedule showing start date, sequence of activities, end date, crew sizes and craft mix. All work is to be planned and scheduled to complete as soon as possible. After award of PO contractor will submit detailed plan in Primavera

6.2.2 Arranging receipt and transfer of all non-consumable material from the COMPANY T/A Warehouse to the work location. CONTRACTOR will return the balance of unused and undamaged material to the T/A warehouse after completion of work.

6.2.3 Supplying all qualified labor, supervision, tools, equipment, technical support, consumables, expendables, and temporary supplies necessary for, and reasonably incidental to complete Repair & Cleaning of Columns

6.2.4 Providing necessary consumable and expendable supplies in sufficient quality and quantity for personnel to perform the scope of work safely and efficiently.

6.2.5 Providing, Breathing Apparatus for blinding, Air compressor, Certified & Tested Lifting & Pulling tools and tackles, Calibrated Pressure gauges, Test equipment, Safety Device, chemical hoses Hand Tools & Power Tools etc. These should meet or exceed COMPANY relevant GI’s.

6.2.6 Blind lists provided in bidding package are tentative for estimation purpose. Blinding at site to be done as per

Operations Blind list provided with marked up PID's. These lists will be provided at later stage after award of PO.

6.2.7 Provide forklifts and qualified forklift operators holding valid Saudi driving license. Forklift operators are required to attend COMPANY Powered Industrial Truck (PIT) training per COMPANY General Instruction. CONTRACTOR will schedule personnel for pre-T/A PIT training at the request and timing specified by COMPANY T/A management.

7.0 REPORTING REQUIREMENTS

7.1 CONTRACT DAILY REPORT

CONTRACTOR shall submit progress reports at end of each shift which provide manpower (including manual, non-manual and sub-contractors) present for work, a listing of all equipment on site (detailed by type and quantity), and any Safety related issues. Reports shall be submitted in the format established with continuation pages on forms proposed by CONTRACTOR and acceptable to the COMPANY Representative.

7.2 DAILY PROGRESS REPORT

CONTRACTOR shall submit a written daily progress report, which will cover daily field work. The report shall summarize the status of job and the overall progress achieved for the CONTRACTOR's detailed work schedule.

8.0 DATA REQUIREMENTS

After completion of turnaround contractor will submitted detailed report. This report will contain technical details, manpower & logistic details.

9.0 QUALITY CONTROL REQUIREMENTS

9.1 QUALITY PLAN

9.1.1 CONTRACTOR shall provide a comprehensive; project specific Quality Plan that identifies CONTRACTOR's procedures for Quality Control during the Construction execution phase of the Work. The Quality Plan shall be presented to COMPANY for approval at least 45 days prior to beginning turnaround. After approval by COMPANY, CONTRACTOR shall comply with requirements of the Quality Plan.

9.1.2 Should any inspection or test reveal any defect in CONTRACTOR supplied materials or in CONTRACTOR's Work, CONTRACTOR shall correct such defect at no cost to COMPANY.

9.1.3 Hydro test of all piping shall be at in-service pressure of piping. All joints shall be exposed during hydro test. Hydro test plan shall be submitted with the Quality Plan.

9.1.4 Pipe should be cleaned thoroughly before fitment so that unwanted dust, etc should not be present.

9.1.5 Pipe Line should be made ready for commissioning as per schedule, including testing, inspection, cleaning, etc.

9.1.6 CONTRACTOR shall also assist in the commissioning and start up of the line.

9.2 QUALITY INCHARGE

CONTRACTOR shall provide a full-time QC who shall be responsible for the coordination of CONTRACTOR's construction quality surveillance, inspection, testing, and documentation activities.

10.0 CONSTRUCTION

All Construction Access, Construction Methods, Temporary Facilities and Work Areas shall conform to and be in compliance with COMPANY Operations, Standard Industry requirements and where applicable Royal Commission for Jubail Construction Safety requirements.

10.1 Turnaround Execution Plan

CONTRACTOR shall develop and submit to COMPANY a detailed project specific turnaround Execution Plan at least 60 days prior to the start of turnaround.

10.2 Security Program

CONTRACTOR is responsible for the security of its workers, tools, materials and equipment (and to and from) the jobsite. All small tools and construction equipment belonging to CONTRACTOR must be clearly identified as such. Tools including personal tools are subject to inspection at the security gate upon arrival and departure.

10.3 Construction Area Limits

COMPANY shall designate the boundary limits of access roads, parking areas, storage areas, and construction areas. CONTRACTOR shall not trespass in or on areas not so designated. CONTRACTOR shall be responsible for keeping all of its personnel out of areas not designated for CONTRACTOR's use. In the case of isolated work located within such areas, CONTRACTOR shall obtain permits to enter and perform the Work. CONTRACTOR shall keep all vehicles, equipment, materials and personnel in such areas as designated by COMPANY.

10.4 CONTRACTORS Office at Site of Work

During the execution of this Contract, COMPANY will provide office for project manager & coordinator in separate or shared office building

10.5 CONTRACTOR Supplied Temporary Buildings

Any CONTRACTOR supplied temporary construction buildings shall be fire retardant and shall include fire protection equipment. The location, size(s), quantity and type(s) of temporary buildings shall be subject to COMPANY's review and approval.

10.6 Personnel Identification

10.6.1 CONTRACTOR's personnel and Sub-contractor personnel shall have in their possession all required and properly validated licenses, certificates or identification badges prescribed by COMPANY or the Saudi Arabian Government.

10.6.2 CONTRACTOR shall wear and provide identification badges to all its employees working either directly or indirectly under its supervision. These badges must be worn conspicuously by these employees at all times when on the jobsite. CONTRACTOR shall provide Temporary badges and safety gear for visitors and delivery personnel.

10.7 Smoking

Smoking shall only be allowed in the designated smoking areas.

10.8 Dust Control

CONTRACTOR, for the duration of the Contract, shall maintain all excavations, embankments, haul roads, plant sites, waste disposal areas, borrow areas, and all other work areas free from dust, as determined by COMPANY. Industry-accepted methods of dust control suitable for the area involved, such as sprinkling, chemical treatment, tight bituminous treatment or similar methods, with COMPANY approvals, will be permitted. No separate payment will be made for dust control.

10.9 Water Pollution

CONTRACTOR shall, at own expense, provide suitable facilities to prevent the introduction of any substances or materials into any stream, lake or other body of water which may pollute the water or constitute substances or materials deleterious to fish, wildlife and domestic stock.

10.10 Air Pollution

CONTRACTOR shall also perform the Work so as not to discharge into the atmosphere from any source whatever smoke, dust, or other air contaminants in violation of the laws, rules and regulations of the government entities having jurisdiction.

10.11 Fuels & Lubricant

CONTRACTOR shall be responsible for the proper handling, transportation, storage and use of fuels and lubricants and shall, at CONTRACTOR's sole expense, make good any damage caused by its handling, transporting, storage and use of fuels and lubricants.

10.12 Ventilating

10.12.1 CONTRACTOR shall prevent hazardous accumulations of dust, fumes, mists, vapors or gases in areas occupied during construction.

10.12.2 CONTRACTOR shall provide local ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.

10.12.3 CONTRACTOR shall dispose of materials in manner that will not result in harmful exposure to persons or disrupt or otherwise effect operation of existing facilities.

10.12.4 CONTRACTOR shall ventilate storage spaces containing hazardous, volatile or high temperature sensitive materials.

10.13 Site Signs

Identification signboards and notices for safety or instruction are permitted on site only after approval of COMPANY for format, location and quantity.

10.14 Drainage

CONTRACTOR shall provide proper and adequate drainage for its construction, storage, parking and fabrication areas including the necessary piping for disposal to COMPANY ditches, or sewers. Temporary drainage facilities shall be removed upon completion of Work unless COMPANY directs to have the facilities left in place. CONTRACTOR shall be responsible for providing and operating any temporary pumps for keeping its area drained. CONTRACTOR shall furnish and place any necessary surfacing material to avoid loss of time due to muddy conditions.

10.15 Lunch and Toilet Facilities

Company shall provide necessary lunch and toilet facilities for CONTRACTOR personnel... CONTRACTOR shall provide meals to their manpower during breaks in lunch tent.

10.16 Construction Entrance

Access into COMPANY work site shall be through TA gate.

10.17 Review by COMPANY

Review and approval of CONTRACTOR's rigging, scaffolding and other construction plans by COMPANY, shall not constitute or to be construed as an assumption of CONTRACTOR's responsibility or liability for scaffolding or safety under the Contract or at law, and does not relieve CONTRACTOR from full compliance with its legal and contractual obligations.

10.18 Interference

It is understood that the COMPANY may itself perform Work at or near the CONTRACTOR's Work site, or have such Work performed by others. CONTRACTOR agrees to cooperate fully with COMPANY or any other CONTRACTOR performing such Work, and not to interfere with the performance of such Work.

10.19 Site Clean Up

CONTRACTOR shall maintain the site in a safe and orderly condition by daily removal and disposal of accumulated rubbish and waste material. Temporary equipment shall be removed immediately upon completion of the WORK requiring the equipment. Upon completion of the Work, CONTRACTOR shall clear the site of all remaining CONTRACTOR's temporary facilities, temporary equipment, debris, tools, and material used in the Work. Where CONTRACTOR, upon written notice from the COMPANY, fails to maintain the site in a safe and orderly condition, the COMPANY will have the site maintenance Work performed and deduct the cost from the CONTRACTOR invoice.

10.20 Heavy lifts

CONTRACTOR shall provide a **heavy lift plan for all lifts over FIVE (05) tons**, for COMPANY's review and approval.

11.0 ENVIRONMENTAL REQUIREMENTS

11.1 General Requirements

CONTRACTOR shall plan, execute and complete all work such that there are zero environmental incidents and no detrimental environmental impacts to the local population, workers, air, water, soil, plants and animals.

11.2 Environmental Care and Response Plan

CONTRACTOR shall submit a Project Specific Environmental Care and Response Plan in compliance with the Saudi Arabian Government, and Saudi Chevron Petrochemical Environmental Standards. The Environmental Plan shall provide specific plans and procedures to address compliance with these Standards and shall be submitted for COMPANY review prior to commencement of the Work.

11.3 Environmental Care Practices

CONTRACTOR shall perform the Work in accordance with all environmental care practices, applicable local and national rules, regulations and codes taking all reasonable precautions to protect the facility, adjacent facilities, workers and the public. CONTRACTOR shall have materials and equipment on site to minimize, control and mitigate incidences of uncontrolled releases of materials to the air, water or land.

11.4 Environmental Care Orientation Meeting

CONTRACTOR’s in-Kingdom supervisory personnel, including supervisory personnel of CONTRACTOR subcontractors, shall attend an environmental care orientation meeting, prior to commencing the Work. This meeting shall last at least two (2) hours and shall be separate from any safety or security orientation.

COMPANY may, at its sole discretion, audit CONTRACTOR environmental care orientation meetings.

11.5 Accidents and spills

Accidents, spills, uncontrolled releases to air, water, and land or other environmental incidents and “near misses” shall be orally reported to COMPANY at the time of the incident. CONTRACTOR shall submit written reports, in a format developed with COMPANY, within twenty-four (24) hours after each incident. CONTRACTOR shall maintain a jobsite record of such environmental incidents and “near misses” which shall be submitted to COMPANY upon written request.

11.6 CONTRACTOR’s Responsibility

CONTRACTOR shall be wholly responsible for construction means, methods, techniques, sequences or procedures for environmental precautions and programs in connection with the Work. COMPANY

shall not, in any way, be responsible for CONTRACTOR’s failure to employ such precautions.

END
EXHIBIT–I